

LOUISIANA DEPARTMENT OF WILDLIFE & FISHERIES



**OFFICE OF FISHERIES
INLAND FISHERIES DIVISION**

PART VI -A

WATERBODY MANAGEMENT PLAN SERIES

BUSSEY BRAKE RESERVOIR

LAKE HISTORY & MANAGEMENT ISSUES

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LAKE HISTORY

GENERAL INFORMATION

Date Reservoir Formed

The reservoir was completed in 1958 and was opened to the public for fishing in the spring of 1960 (Figure 1).



Figure 1. After a post-impoundment fishing closure of two years, Bussey Brake Reservoir, LA was opened to anglers April 30, 1960.

Impoundment

Bussey Brake is an “above ground” reservoir. The reservoir was created by the construction of almost eight miles of ring levee.

Size (surface area)

2,200 acres

Watershed

The ring levee serves to prevent flow from the watershed into Bussey Brake. All water for the reservoir is through direct rainfall or is pumped from Bayou Bartholomew.

Pool Stage

90 feet MSL (mean sea level)

Parish

Morehouse

Border Waters

Bayou Bartholomew flows along the eastern perimeter of Bussey Brake Reservoir.

Spillway Width

12 ft. x 12 ft. concrete vertical box structure with a seven ft. wide spillway with stop logs on one side.

Drawdown Description

Previous drawdowns have been a maximum of eight feet, but there is potential to remove most of the water from the reservoir. The water adjacent to the perimeter levee is deeper than the rest of the reservoir because this is where the dirt was removed to build the levee. A bathometric study will be completed on this lake to determine deeper water locations.

Who Controls

International Paper Company - Plum Creek Timber Company owns 1,900 acres (71% of surrounding property) and is currently leasing the property to International Paper Company for a 99 year term. This lease originated on Dec. 2, 1956 and is due to expire in 2055. An additional 80 acres is under a 99 year lease with Garnier/Madison, which is due to expire in 2056. There is an option under the lease agreements to renew the lease for an additional 99 years with written notice to the Lessor not more than five years and not less than three years prior to lease expiration. International Paper owns the remaining 26% (710.8 acres) of the property. Bussey Brake was created to provide water for the paper mill in Bastrop, LA. Currently, the reservoir is not being used for water supply due to the closure of the International Paper Company Mill.

LAKE AUTHORITY

Currently, the International Paper Company exercises management authority over Bussey Brake Reservoir in Morehouse Parish, Louisiana (Figure 2).



Figure 2. International Paper Company sign currently at the entrance to Bussey Brake Reservoir, LA, April 20, 2010.

Drawdown Schedule

There is no scheduled drawdown for this waterbody.

Maps

Maps are available upon request at the LDWF District 2 office in Monroe, LA (Appendix 1).

Access

There is one public boat launching facility available for use on Bussey Brake (Figure 3). Gates to the facility are closed at dusk. The parking lot is gravel and can hold approximately 40 vehicles with trailers. Boat styles are also available around the reservoir to allow fishermen to have multiple access points to put in with small boats (Figure 4).



Figure 3. The ramp on Bussey Brake Reservoir is a corrugated concrete surface consisting of three divided lanes. Photo taken on April 20, 2010 at the main entrance of the reservoir.



Figure 4. Boat stile on Bussey Brake Reservoir. Photo taken on April 20, 2010 near the pump house on Bayou Bartholomew.

Boat Docks

A Public boat dock is located at the boat ramp to temporarily moor boats while launching and loading boats and parking vehicles.

Piers

None

Artificial Reefs

None

SHORELINE DEVELOPMENT

Shoreline Development by Landowners

None

PHYSICAL DESCRIPTION OF RESERVOIR

Shoreline Length

There are approximately eight miles of shoreline with 7.8 miles completely lined with limestone rip-rap. The reservoir has windbreaks that were established with bald cypress (*Taxodium distichum*) and water tupelo (*Nyssa aquatica*) trees, which add an additional 0.2 miles of shoreline interface (Figure 5).



Figure 5. Windbreak located on the southeast corner of Bussey Brake Reservoir, LA near spillway during a high water event on April 20, 2010.

Timber type

Cypress trees are found along the shoreline and along the windbreaks. Standing timber was left in Bussey Brake at impoundment. Remaining woody complex cover is but a minor remnant of the original coverage.

Average depth

11 feet

Maximum depth

30 feet.

Natural seasonal water fluctuation
One to two feet.

EVENTS / PROBLEMS

Aquatic Vegetation

Aquatic vegetation was problematic in the initial years following impoundment, covering nearly 750 acres of the reservoir by October 1962. The two problem aquatic plants were southern naiad (*Najas guadalupensis*) and narrow leaf pond weed (*Potamogeton spp.*) (Lantz et al. 1964; Davis and Hughes 1971, 1975). These vegetation problems occurred in the shallower areas of the reservoir where the sunlight extended to the bottom.

Standing Timber Study

Davis and Hughes (1971) conducted a three-year study to determine the value of leaving standing timber in a newly established reservoir. During the first three years of reservoir impoundment, fishermen were using standing timber areas between 50 and 90 percent of the time. The greatest use of standing timber came in the third year of study with 90 percent of the fishing effort associated with timber. This study concluded that a small percentage of trees are important in a new reservoir to congregate both anglers and game fish.

Fisheries Imbalance

Bussey Brake has been beset with an over abundance of rough fish (i.e. common carp (*Cyprinus carpio*) & buffalo [*Ictiobus spp.*]) since the early 1990's when a wild water source was used to fill the lake. This over abundance has caused a significant decline in the sport fish populations of the reservoir by reducing aquatic vegetation and spawning success of centrarchids such as black bass (*Micropterus spp.*) and sunfish (*Lepomis spp.*).

A plan was devised to improve the fishery by eliminating or controlling carp in Bussey Brake (Appendix II). Several suggestions were made to control the carp, but the final plan was to remove carp by employing the services of commercial fishermen. The commercial fishermen were to be paid a salary of \$100 per day and have a payment of \$0.20 per pound of carp caught. The effort resulted in 143,759 lbs. of carp being removed from 1994 -1997, with the largest harvest occurring in 1996, with nearly 58,000 lbs. of carp and 1,700 lbs. of buffalo being removed. The greatest harvest of buffalo occurred in 1994 with 7,600 lbs. being landed.

Drawdowns

Two eight-foot drawdowns have occurred on the reservoir since impoundment, with the first being in 1962 and the other in 1965. The initial drawdown was implemented to control aquatic vegetation, and the latter was carried out for fish population management (Lantz et al. 1964).

Flooding

None

Water Supply

The water level is stable throughout the year due to the ability to pump water from Bayou Bartholomew. However, there exists a significant potential to introduce invasive species from this water source. This “wild” water source has been a contributing factor resulting in the introduction and overabundance of rough fish in the reservoir. The intake pipe has a substantial diameter of 38 inches (Figure 6).



Figure 6. Pump house and associated pipes used to pump water into Bussey Brake Reservoir, LA from Bayou Bartholomew. Photos taken on April 20, 2010 at the pump station located on Bayou Bartholomew.

MANAGEMENT ISSUES

Lake refilling Capacity

The lake is surrounded by a ring levee, which makes it necessary to pump water from Bayou Bartholomew. This water source has a large amount of rough fish in the early life stages (eggs, larvae, juveniles) that can be pumped into the lake. These wild fish (primarily common carp) have caused negative impacts to the reservoir increasing turbidity, decreasing sport fish populations, and decreasing recreational use.

Aquatic Vegetation

The first drawdown occurred on Bussey Brake Reservoir four years after impoundment, which was to control aquatic vegetation. The drawdown was initiated October 28, 1962 and the gates were closed for re-fill on December 31, 1962. The reservoir was refilled through the use of pumps beginning on February 26, 1963. Pool stage was achieved May 25, 1963. The drawdown was necessary because herbicides had been ineffective in controlling submerged species including pond weed (*Potamogeton spp.*), and southern naiad (*Najas guadalupensis*). This drawdown was extremely effective, with aquatic vegetation coverage being reduced by 98 percent (Lantz et al. 1964; Davis and Hughes 1975).

Type map

Aquatic type maps have not been conducted on this lake.

Biomass

N/A

Treatment history by year available

Biological

N/A

Chemical

Applications have been limited on Bussey Brake. No applications have been conducted in the past 20 years.

HISTORY OF REGULATIONS

Recreational

Statewide regulations have been in effect for all fish species since impoundment.

Commercial

Commercial netting has been prohibited by International Paper Company since impoundment. Netting was allowed on a contract basis for rough fish control only. No restrictions have been exercised on the limited stump-hook flathead catfish fishery. .

DRAWDOWN HISTORY

Success

The use of drawdowns as a management tool has been limited due to a conflict with the primary water use of Bussey Brake - to supply water for the International Paper Mill in Bastrop, LA. Exceptions have included one drawdown in 1962 for aquatic vegetation control and another in 1965 for fisheries management. The drawdown in 1962 was an 8 foot drawdown and the gates were held open for 2 months. Refilling of the lake with pumps on Bayou Bartholomew began on February 26, 1963 and pool stage was reached on May 25, 1963. The drawdown in 1965 was also an 8 foot drawdown that lasted from late October to March.

Fish Kills

No fish kills have been observed during the drawdowns.

FISH KILLS / DISEASE HISTORY

No fish kills have been documented to date.

CONTAMINANTS / POLLUTION

Water quality

The surface water source for Bussey Brake Reservoir is Bayou Bartholomew which is currently listed as impaired by the EPA because of elevated methyl mercury concentrations. Water quality concerns noted for Bayou Bartholomew watershed and the related US Environmental Protection Agency Data and the Louisiana Department of Environmental Quality (LDEQ) are available from the following:

[http://iaspub.epa.gov/tmdl_waters10/huc_rept.control?p_huc=08040205&p_huc_desc=BAYOU BARTHOLOMEW](http://iaspub.epa.gov/tmdl_waters10/huc_rept.control?p_huc=08040205&p_huc_desc=BAYOU%20BARTHOLOMEW)

<http://www.deq.louisiana.gov/apps/305db/show2.asp?WBID=LA080401>

BIOLOGICAL

Fish Sampling History

Rotenone sampling was conducted from 1964 – 1995. Rotenone sampling was discontinued due to negative public sentiment and the availability of data from alternative sampling techniques. Electrofishing is currently used as the primary largemouth bass sampling tool. Lead netting is utilized as the primary crappie sampling tool. Gill netting is used to sample large fish, including bass, commercial, and rough species. Table 1 contains the sampling history since 1959 and scheduled sampling until 2013.

Table 1. Fish sampling conducted and scheduled for Bussey Brake Reservoir, LA from 1959 until 2013.

BUSSEY BRAKE SAMPLING	
1959 - 1995	Rotenone 1 to 5 – one acre sets (Sampled in 1959-1967, 1969-1972, 1974, 1976, 1977, 1979-1987, 1989, 1993, and 1995). Creel Surveys – 1960-1967, Oct 1, 1979 - Sept 31; 1980, Oct 1, 1981 - Sept 31, 1982
1990	Electrofishing - 3-15 min. samples (Spring), 7-15 min. samples (fall) Seining – 4-25' Seine, 1/4" bar mesh Gill Netting - 1 sample each including 300' of 2.5, 3.0, 3.5, and 4.0 in. bar mesh

1991	Electrofishing – 6-15 min. samples (Spring and Fall) Seining – 4-25' Seine, ¼" bar mesh Rod and Reel Sampling – 3 day samples Frame Nets – 4 stations – ½" bar mesh
1992	Gill Netting - 6 samples each including 100' of 2.5, 3.0, 3.5, and 4.0 in. bar mesh Frame Nets – 4 stations – ½" bar mesh Seining – 3-25' Seine, ¼" bar mesh
1993	Electrofishing - 6-15 min. samples (Spring and Fall) Frame Nets – 1 station – ½" bar mesh Gill Netting - 4 samples of 300' of 2.5, and 3 samples of 300' 3.0, and 3.5 in. bar mesh
1994	Gill Netting - 3 samples each including 300' of 2.5, 3.0, 3.5 in. bar mesh
1995	Electrofishing - 6-15 min. samples (spring and fall) Gill Netting - 6 samples each including 300' of 2.5, 3.0, 3.5, and 4.0 in. bar mesh
1996	No Sampling
1997	Electrofishing - 6-15 min. samples (spring and fall), 1-15 min. forage sample
1998	Gill Netting - 4 samples each including 300' of 2.5, 3.0, 3.5, 4.0 in. bar mesh Frame Nets – 6 stations – ½" bar mesh
1999	Electrofishing - 7-15 min. samples (spring) 6-15min. samples (fall), 1-15 min. forage sample
2000	No Sampling
2001	Electrofishing - 6-15 min. samples (spring and fall)
2002	No Sampling
2003	Electrofishing - 6-15 min. samples (spring and fall), 1-15 min. forage sample Gill Netting - 6 samples each including 300' of 2.5, 3.0, 3.5, and 4.0 in. bar mesh
2004-2005	No Sampling
2006	Electrofishing - 6 – 15 min. samples (spring)
2007	Gill Netting - 6 samples each including 300' of 2.5, 3.0, 3.5, and 4.0 in. bar mesh Wing net – 5 stations (2 hoops (3.5feet))

2008	No Sampling
2009	Electrofishing - 6-15 min. samples (spring and fall) Gill Netting - 6 samples each including 300' of 2.5, 3.0, 3.5, and 4.0 in. bar mesh
2010	No Sampling
2011	Electrofishing - 6 – 15 minute samples Gill nets 6 samples each including 300' of 2.5, 3.0, 3.5, and 4.0 in. bar mesh
2012	Lead Net – 6 samples
2013	No Sampling

Lake records

See Louisiana Outdoor Writer Association (LOWA) records (Table 2).
<http://www.laoutdoorwriters.com/LinkClick.aspx?fileticket=raz4WbMqdQY=&tabid=87>

Table 2. Bussey Brake Reservoir, LA fish species recognized as record size and listed in LOWA recreational angling records.

Species	Weight (pounds)	Date	State Rank
Bigmouth Buffalo (World all tackle record)	70.31	April 1980	1
Bigmouth Buffalo	43.5	December 1986	6
Common Carp	35	April 1981	1
Common Carp	33	April 1971	2

Stocking History

The stocking history for Bussey Brake Reservoir is detailed in Table 3 below. Introductions since impoundment include: largemouth bass (Northern and Florida sub-species), bluegill (*Lepomis macrochirus*), white crappie (*Pomoxis annularis*), flathead catfish (*Pylodictis olivaris*), channel catfish (*Ictalurus punctulatus*) and hybrid stripers (*Morone saxatilis* x *Morone chrysops*).

Table 3. Fish species and numbers of each stocked into Bussey Brake Reservoir, LA from 1959 through 1990.

Date	Number / Species Stocked
1959	220,000 largemouth bass, 88,000 white crappie, 2,200,000 bluegill sunfish, 50,000 channel catfish
1976	21,753 Hybrid striped bass
1977	25,000 Hybrid striped bass
1978	20,000 Hybrid striped bass
1979	20,000 Hybrid striped bass
1980	25,000 Hybrid striped bass
1981	22,050 Hybrid striped bass
1982	23,790 Hybrid striped bass
1983	22,045 Hybrid striped bass
1984	26,316 Hybrid striped bass
1985	25,694 Hybrid striped bass
1986	22,060 Hybrid striped bass, 500 flathead catfish
1987	50,000 Florida largemouth bass, 600 flathead catfish,
1988	130 flathead catfish
1990	158,151 Florida largemouth bass, 4,667 flathead catfish

Genetics

Sampling for genetic composition of fish species has not been conducted on this waterbody.

Species profile

The following fishes have been collected in Bussey Brake Reservoir during LDWF sampling from 1959 to 2011.

Lamprey Family, PETROMYZONTIDAE

Chestnut lamprey, *Ichthyomyzon castaneus* (Girard)

Paddlefish Family, POLYODONTIDAE

Paddlefish, *Polyodon spathula* (Walbaum)

Gar Family, LEPISOSTEIDAE

Spotted gar, *Lepisosteus oculatus* (Winchell)

Longnose gar, *Lepisosteus osseus* (Linnaeus)

Shortnose gar, *Lepisosteus platostomus* (Rafinesque)

Alligator gar, *Atractosteus spatula* (Lacépède)

Bowfin Family, AMIIDAE

Bowfin, *Amia calva* Linnaeus

Freshwater Eel Family, ANGUILLIDAE

American eel, *Anguilla rostrata* (Lesueur)

Herring Family, CLUPEIDAE

Gizzard shad, *Dorosoma cepedianum* (Lesueur)

Threadfin shad, *Dorosoma petenense* (Günther)

Minnow Family, CYPRINIDAE

Blacktail shiner, *Cyprinella venusta* (Girard)

Common Carp, *Cyprinus carpio* (Linnaeus)

Golden shiner, *Notemigonus crysoleucas* (Mitchill)

Weed shiner, *Notropis texanus* (Girard)

Bullhead Minnow, *Pimephales vigilax* (Baird and Girard)

Sucker Family, CATOSTOMIDAE

Lake chubsucker, *Erimyzon sucetta* (Lacépède)

Smallmouth buffalo, *Ictiobus bubalus* (Rafinesque)

Bigmouth buffalo, *Ictiobus cyprinellus* (Valenciennes)

Black buffalo, *Ictiobus niger* (Rafinesque)

Spotted sucker, *Minytrema melanops* (Rafinesque)

Freshwater Catfish Family, ICTALURIDAE

Black bullhead, *Ameiurus melas* (Rafinesque)

Yellow bullhead, *Ameiurus natalis* (Lesueur)

Blue catfish, *Ictalurus furcatus* (Lesueur)

Channel catfish, *Ictalurus punctatus* (Rafinesque)

Tadpole madtom, *Noturus gyrinus* (Mitchill)

Flathead catfish, *Pylodictis olivaris* (Rafinesque)

Pirate Perch Family, APHREDODERIDAE

Pirate perch, *Aphredoderus sayanus* (Gilliams)

Killifish Family, Fundulidae

Golden topminnow, *Fundulus chrysotus* (Günther)

Blackstripe topminnow, *Fundulus notatus* (Rafinesque)

Blackspotted topminnow, *Fundulus olivaceus* (Storer)

Livebearer Family, POECILIIDAE

Western mosquitofish, *Gambusia affinis* (Baird and Girard)

Silverside Family, ATHERINOPSIDAE

Brook silverside, *Labidesthes sicculus* (Cope)

Inland silverside *Menidia beryllina* (Cope)

Pygmy Sunfish Family, ELASSOMATIDAE

Banded pygmy sunfish, *Elassoma zonatum* (Jordan)

Perch/Darter Family, PERCIDAE

Bluntnose Darter, *Etheostoma chlorosomum* (Hay)

Logperch, *Percina caprodes* (Rafinesque)

Swamp Darter, *Etheostoma fusiforme* (Girard)

Cypress Darter, *Etheostoma proeliare* (Hay)

Temperate Bass Family, MORONIDAE

White bass, *Morone chrysops* (Rafinesque)

Yellow bass, *Morone mississippiensis* (Jordan and Eigenmann)

Sunfish Family, CENTRARCHIDAE

Flier, *Centrarchus macropterus* (Lacépède)

Green sunfish, *Lepomis cyanellus* (Rafinesque)

Warmouth, *Lepomis gulosus* (Cuvier)

Orangespotted sunfish, *Lepomis humilis* (Girard)

Bluegill, *Lepomis macrochirus* (Rafinesque)

Dollar sunfish, *Lepomis marginatus* (Holbrook)

Longear sunfish, *Lepomis megalotis* (Rafinesque)

Redear sunfish, *Lepomis microlophus* (Günther)

Spotted sunfish, *Lepomis punctatus* (Valenciennes)

Bantam sunfish, *Lepomis symmetricus* (Forbes)

Northern largemouth bass, *Micropterus salmoides salmoides* (Lacépède)

Spotted Bass, *Micropterus punctulatus* (Rafinesque)

White crappie, *Pomoxis annularis* (Rafinesque)

Black crappie, *Pomoxis nigromaculatus* (Lesueur)

Drum Family, SCIAENIDAE

Freshwater drum, *Aplodinotus grunniens* (Rafinesque)

Threatened/endangered/exotic species

Asian carps (grass carp *Ctenopharyngodon idella*, bighead carp *Hypophthalmichthys nobilis*, and silver carp *Hypophthalmichthys molitrix*) have been documented in the adjacent surface water source of Bayou Bartholomew, but have not been captured in Bussey Brake.

CREEL

Historic Information/Type

Extensive angler surveys have been conducted on Bussey Brake beginning the first year of reservoir opening in 1960 thru 1967. Davis and Hughes (1963) estimated that 160,946 fishermen used Bussey Brake during the first three years after reservoir opening. An access point survey was conducted on Oct. 1, 1979 – Sept. 30, 1980 and the same dates were surveyed in 1981 – 1982. These surveys found that the number of anglers utilizing the reservoir had decreased by half compared to the first seven years after the reservoir opening.

HYDROLOGICAL CHANGES

N/A

WATER USE

Hunting

Not allowed by International Paper Company.

Skiing

Not allowed by International Paper Company.

Swimming

Not allowed by International Paper Company.

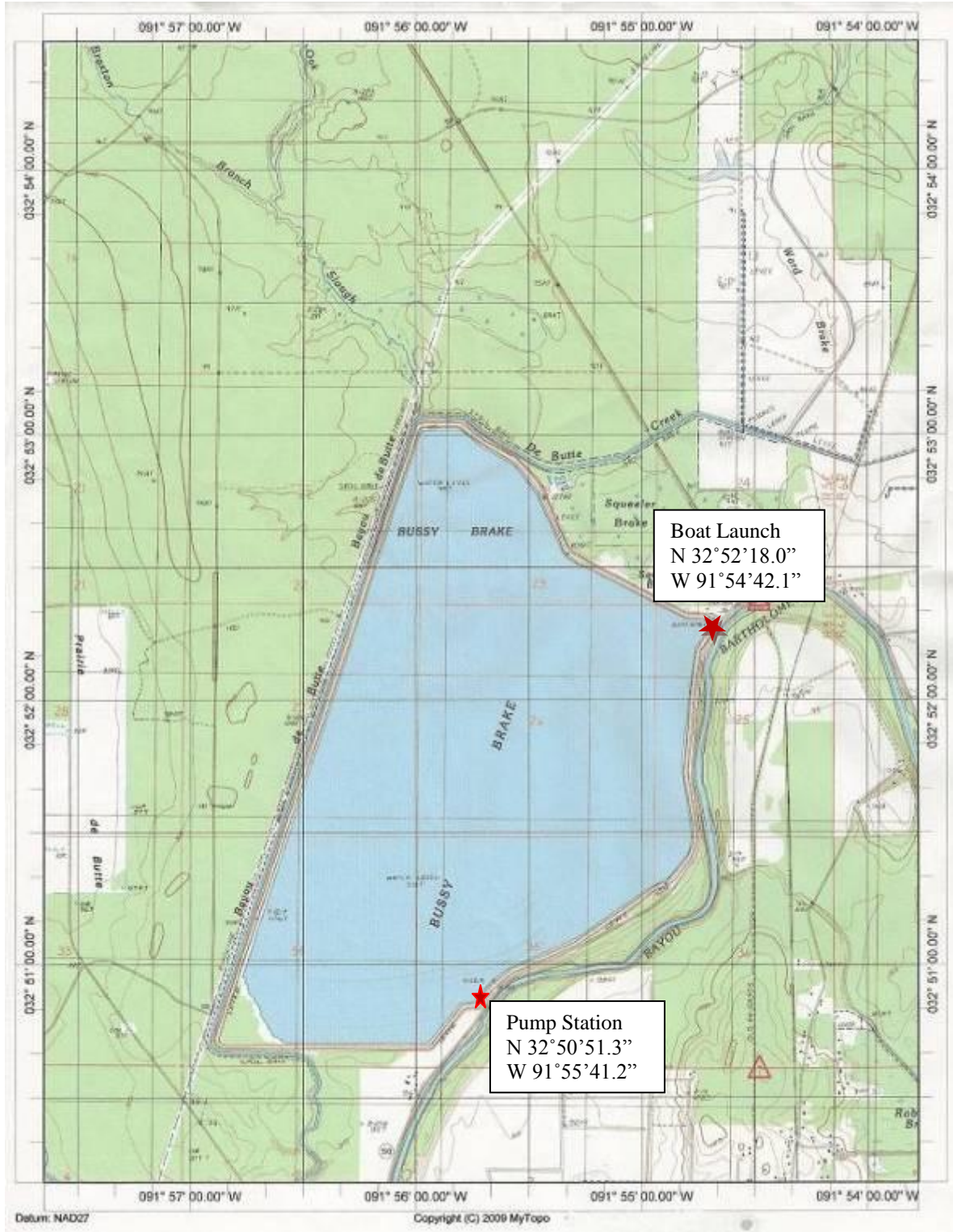
Fishing

Excellent fishing opportunities for both shoreline and boating anglers

Irrigation

Not allowed by International Paper Company.

APPENDIX I. MAP OF BUSSEY BRAKE



APPENDIX II. CARP CONTROL RECOMMENDATIONS

SUGGESTIONS FOR CARP ELIMINATION OR CONTROL IN BUSSEY BRAKE

Submitted to International Paper Company in 1994 by LDWF employee Janice Little

This could be accomplished by one of two methods: either by applying 1.5 ppm rotenone (estimated 12,000 gallons at a cost of approximately \$265,000 plus labor) or draining the lake and killing all the remaining fish {cost of chemical (s) plus labor plus pumping}. I imagine that killing all fish in the lake with chemicals would be poorly received by the public as well as International Paper Company management.

If the lake were drained, most of the fish would go into Bayou Bartholomew. Since some water would be left in the lake, the remaining fish could be killed with the use of rotenone, anhydrous ammonia, or chlorine. The time of year to drain the lake would be in late August or earlier if you know the water will not be needed for the mill. As soon as the water is removed, the remaining fish could be killed and the process of refilling the lake could begin in October or November. This would allow at least 3 months refilling the lake since it should be done by the end of January. It would be best if a screen could be designed to be placed either over the intake or on the outlet to assure no unwanted fish were returned to the lake. If this is not possible, at least no fish eggs and few fry would be present in the bayou during the winter months and a minimum number of fish would go through the pumps. The Department of wildlife and Fisheries would then re-stock the lake with bluegill, redear sunfish (chinquapin), black crappie, catfish (channel, blue and flathead), Florida largemouth bass, and threadfin shad. The lake should be closed to fishing until after the largemouth bass spawning season in April approximately 18 months after the lake starts to fill. Fishing in the lake should be as fabulous as it was in the 1960s and with the stocking of Florida largemouth bass in this fertile lake, state records could very well be broken.

CONTROL OF CARP

1. Netting

If the lake is not drained, this technique could be used. It will be necessary to hire a commercial fisherman to fish for the carp. A salary of \$20.00 per day fished and payment for carp caught (\$0.15 per pound) is suggested. (This will have to be negotiated.) He would be responsible for disposal of carp caught. He may be able to get an additional \$0.15 per pound for crawfish bait, etc... He should also be requested to take legal size channel catfish, garfish, freshwater drum (goo), bowfin (illegal to take with nets during December, January and February), gizzard shad, and spotted suckers. Game fish or flathead catfish should be released. (You may have to allow him 500 - 1,000 pounds of flathead catfish.) Any legal nets or devices can be used. He should be required to furnish his own nets and purchase his own license. This effort would have to be continued for several years, since remaining carp would continue to spawn.

2. Partial kill (not recommended)

This could be accomplished with the use of rotenone since carp and shad are more sensitive than any other species. Approximately 1,200 gallons of rotenone would be required

(2,200 acres X 11' average depth X 0.15 ppm rotenone) at an estimated cost of \$26,500.00 for the chemical. Labor to survey the lake and apply the rotenone would have to be added. My experience with partial kills has indicated that not all target species are eliminated and many non-target species such as largemouth bass, "bream", crappie and catfish are killed. In addition to not killing all the carp, the PR would not be very good.

3. Fish food pellets containing rotenone (not recommended at this time)

This could be a tool to consider in the future. It would require someone to feed the fish, get them started on catfish pellets, and then feed the rotenone pellets. Only one pellet would be required to kill the fish. With the large number of flathead and channel catfish in the lake, many of them would also be attracted to the pellets. This is still in the research stage in other states and should not be attempted at this time. We will keep you posted on research results.

4. Do nothing (not recommended)

Of course this is always an option. Our netting data for 1993 and 1994 indicates that the carp are getting larger, as would be expected, and are still present in large quantities. We are not capturing any small carp, but this is probably due to the larger mesh size nets we are fishing. We will continue to monitor the carp population to determine how many young carp are surviving. Carp are expected to continue to be a problem.

APPENDIX III.

SUGGESTIONS FOR CHANNEL CATFISH CONTROL IN BUSSEY LAKE

Submitted to International Paper Company in 1994 by LDWF employee Janice Little

Our surveys have indicated the presence of too many channel catfish in the lake. These fish can be removed effectively with the use of slat traps. Our regulations state " Slat trap means any device, used solely for the capture of catfish, which is cylindrical, rectangular, or square in cross section configuration, constructed of slats forming the length of the trap, with at least one pair of slats spaced at least one inch apart from each other on at least three sides of the trap and which is no more than six feet in length, two feet in diameter or width and which has one or more cone-shaped throats, flues, or entrances". The fishermen would need either a **COMMERCIAL LICENSE** (no limit on slat traps) or a **RECREATIONAL LICENSE** (5 slat trap limit). Only channel catfish with a minimum total length of 11 inches can be taken in slat traps if the person has a **COMMERCIAL LICENSE**. Twenty-five under size catfish can be taken by a **RECREATIONAL** fisherman. All other fish have to be released. You could allow slat trap fishermen in the lake on an annual or monthly permit basis and require that they report their catches to the boat dock operator. No more than 100 slat traps should be permitted at one time. These traps can be fished all year long and the amount of time required to take out sufficient fish will regulate itself since they will quit fishing if they do not catch enough to make it worthwhile. Of course, if the lake is drained, this would not be necessary. The game fish population is being adversely affected by the presence of an over abundance of carp and channel catfish. We believe this will continue or become worse if carp and channel catfish are allowed to remain in the lake in large quantities.

APPENDIX IV. LITERATURE RELATED TO BUSSEY BRAKE

- Davis, J.T. and J.S. Hughes. 1964. Results of creel census on four north Louisiana Lakes. Proceedings of the Southeastern Association of Game and Fish Commissioners.
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- Davis, J.T. and J.S. Hughes. 1971. Effects of standing timber on fish populations and fisherman success in Bussey Lake, Louisiana. Reservoir Fisheries and Limnology pp. 255-264.
- Davis, J.T. and J.S. Hughes. 1975. Investigations of fish management practices in Bussey Lake, 1959-1967. La. Wildlife and Fisheries Commission Fisheries Bull. No. 12., 57 pp.
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- Lantz, K.E., J.T. Davis, J.S. Hughes, and H.E. Schafer, Jr. 1964. Water Level Fluctuation-Its effects on vegetation control and fish population management. Proceedings of the Southeastern Association of Game and Fish Commissioners 18:483-506.